HIT Standards Committee Meeting – Testimony – Anand Shroff, Vice President of Products, Axolotl Corp

Description of Approaches

End Point Authentication and Transport Security
There are a number of different approaches available, including OpenID, SAML etc. We currently use SAML 2.0 for end-point authentication.

Our current approaches for transport level security are as follows:

MLLP over VPN: This approach is generally used to exchange HL7 data with hospitals and most physicians using EHR systems

Secure FTP: This approach is used sparingly, typically with smaller EHR systems that do not support MLLP over VPN

Web services using two-way TLS: For systems capable of supporting synchronous web services transactions. This is a small but growing number.

We see a number of benefits in the web services, TLS and SAML 2.0 combination, as there tends to be more immediate feedback on extraordinary activity. Also, both synchronous as well as asynchronous transactions are permitted which provides more implementation choices.

Encryption

As described earlier, we use VPN, SFTP and TLS today. Our preferred approach is two-way TLS due to its inherent advantages as well as its evolution from the widely used and proven SSL standard. We have not encountered requests for end user message level encryption, but expect that a public key/private key infrastructure would be adequate.

Messaging Protocol

A number of different candidates are available – SOAP, REST, SMTP etc. RESTful web services have the advantage of being easier to consume; however, there have been no standardization activities that have resulted in a widely accepted RESTful interface. SOAP, while being more complex, has been implied by the IHE work which is starting to get more traction – especially within the context of connecting at the NHIN level. We are seeing greater recognition and acceptance of the IHE transactions and have started connecting with EHRs as well as provider systems using IHE transactions. Many organizations on the vendor side are making substantial investment in building out support for IHE.

SMTP, which is the preferred standard of the NHIN Direct project, has the advantage of using a widely available toolset which physicians are already quite familiar with. However, there is a

general concern that SMTP is going to fall short due to its asynchronous nature and may undermine the more powerful interactions possible with web services based transactions. Vendors would generally prefer building support for a common infrastructure that could support a number of different use cases as opposed to building multiple infrastructures to support individual use cases.

As far as message receipt is concerned, this issue is certainly more relevant to asynchronous transactions/exchanges as opposed to synchronous transactions. In the web services case, you can use standards such as WS-reliablemessaging in a distributed, asynchronous scenario. We have also used the IHE NAV profile to enable message availability and receipt notifications. Message receipt confirmations are also obviously available in the SMTP case.

Decision Points

Our original decision to support MLLP over VPN for HL7 v2.x transactions was based on the state of the industry and adoption that would have the greatest chance of being widely accepted. For advanced, web services based interactions, our choice of using SOAP-style IHE transactions with TLS and SAML 2.0 were influenced by several factors. The primary among them was that IHE was (is) the only available standard that described exchanges between healthcare entities. Moreover, the NHIN CONNECT standards also rely upon IHE support. This also played a major part in our decision process.

Essential Requirements For P2P Exchanges

A number of use cases/workflows should be handled by provider-to-provider exchange, such as the following:
Referral between a primary care provider and a specialist
Transitions of care between provider organizations, supported by valuable information exchanges including discharge summaries
Results exchange from provider entities such as laboratory, pathology, radiology etc.
Public health reporting for immunizations, notifiable conditions etc.

NHIN Connectivity

We have built and maintain our own gateway that supports the NHIN protocols to connect with the NHIN. We are currently in the process of deploying this to connect the Utah Health Information Network (UHIN) with the Veterans Administration.